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GAVILAN WATER CONSERVATION DISTRICT:
ANNUAL INVESTIGATION & REPORT OF GROUNDWATER CONDITIONS
MARCH 9, 1982

by

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prepared for

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INTRODUCTION

The purpose of this report, in keeping with Section 75560 of the California Water Code, is to give an account of District groundwater conditions. Included are selected data for the consideration of the Board in its determination of (a) the annual overdraft, and (b) the accumulated overdraft as of the last day of the preceeding water year. Estimates are given, moreover, of annual overdrafts for the current water year 1981-82 and for the ensuing water year.

RESERVOIR STORAGE AND PERCOLATION

The 1980-81 water year, notwithstanding an 80 percent of average rainfall and runoff, was ample to sustain a hydrologic balance in South Santa Clara Valley.[1] Uvas Reservoir was filled to capacity (with 8192.77 acre-feet of spillway flow), while Chesbro Reservoir attained 4016 acre-feet of potential storage (less than 50% of capacity).

These modest quantities of captured runoff still contributed significantly to underground recharge. Reservoir releases to Llagas Creek (and ultimately to the Church Avenue Groundwater Recharge Facility) amounted to 9418.33 acre-feet; 3127.57 acre-feet of this issued from Uvas Reservoir by way of the Uvas/Llagas Transfer Conduit. The total release to Uvas Creek, meanwhile, was 6457.17 acre-feet.

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[1] *The City of Gilroy received only 16.16 inches of its 20.00 inches average rainfall during 1980-81.*

TOTAL WATER PRODUCTION FROM UNDERGROUND SUPPLIES AND THE ANNUAL OVERDRAFT

The total amount of water produced from groundwater supplies was approximately 44,000 acre-feet.[2] Agriculture accounted for over three-quarters of the extractions; with the remaining consumption ascribed to municipal, industrial, and domestic usage.

Because these groundwater extractions did not exceed natural replenishment, there was no annual overfraft of the basin during 1980-81.[3] Underground storage rose, in fact, a net average of 8.71 feet; this brought groundwater to a seasonal mean depth of 46.90 feet (a graph spanning the past 16 years of groundwater level records is provided on the following page).

ACCUMULATED OVERDRAFT AND PROJECTED OVERDRAFT CONDITIONS

A series of bountiful rainfall seasons, together with District conservation practices, has restored the drought-induced accumulated overdraft (1976 through 1978) of underground water supplies. The long term mean-depth-to-groundwater of 54.1 feet has, in fact, been eclipsed by 7.5 feet (this inordinate upward trend can be ascribed, in part, to the unusually humid winter/cool summer of 1979-80 and its attendant low consumer-demand for water).

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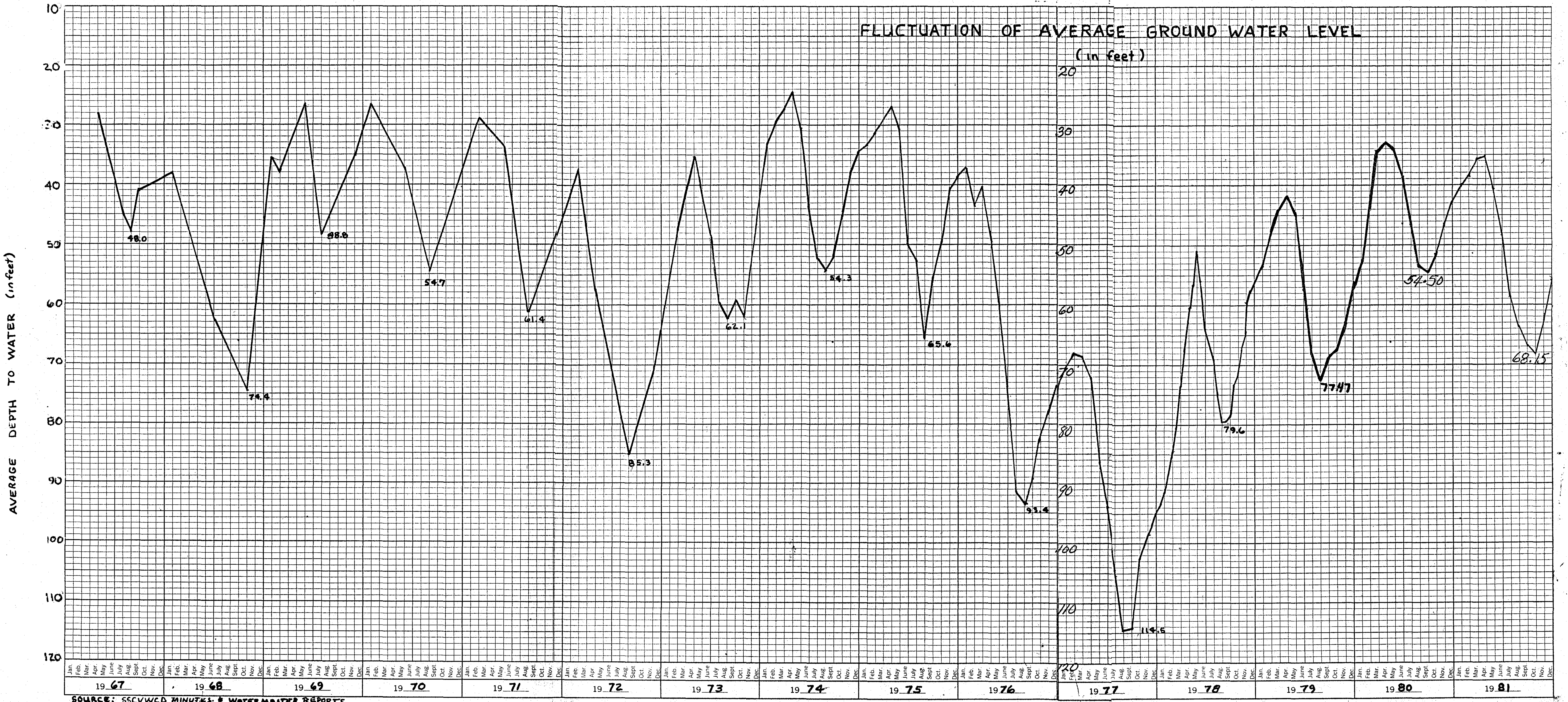
[2] *The figure for total groundwater extractions is based on user-charge reports.*

[3] *ANNUAL OVERDRAFT is defined by the California Water Code as "the amount, determined by the Board, by which the production of water from groundwater supplies within the District..... during the water year exceeds the natural replenishment of such groundwater supplies in such water year."*



FLUCTUATION OF AVERAGE GROUND WATER LEVEL (in feet)

SOURCE: SSCVWCD MINUTES & WATERMASTER REPORTS
(MEASURED QUARTERLY PRIOR TO 1973)

47 3730
K+E 10 YEARS BY MONTHS X 110 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.

Recently extravegant rainfall and runoff further ensures that groundwater levels will continue to remain above average during the present water year. The annual mean level is projected to be 48.07 feet (the recorded low was 68.15 feet and the expected high is 28.0 feet). The long-term mean annual level will, in fact, be exceeded by 6.03 feet.

The District can happily look forward to continued favorable water levels in the ensuing water year. This condition will be realized with even a near average precipitation and runoff season, since abundant reservoir storage (carry-over from the current water year) will be available for percolation at the start of the new season.

SUMMARY AND PROSPECT

In spite of the fact that a desirable level of groundwater is being maintained, the District may not (with present facilities) be able to keep pace with burgeoning demands for water. Consumption might be as high as 80,000 acre-feet by 1990, possibly creating a significant water deficit; the average annual yeild of the District is about 68,000 acre-feet, including reservoir releases (Koretsky King Associates, Inc., 1976, p. 7). A number of far-sighted measures are currently in the development stage.

Perhaps the most important countermeasure in offsetting a future overdraft of local water supplies is a sound and comprehensive program of study and planning. This philosophy has prompted the District's enlistment of William G. Dunn (a water resources development consultant) to provide an accurate analysis of the supplemental water requirements of the South Santa Clara Valley-West Bolsa area. Through this means of enlightenment, the District Board of Directors will initiate those alternatives which best suit the future water needs of the South Valley.

The District, meanwhile, is expanding its ability to recharge the underground basin through continued development of percolation facilities. The Church Avenue Groundwater Recharge Facility, encompassing 57.5 acres near Llagas Creek, was recently brought to full operating capacity. The additional use of spreader dams within the Llagas Channel, furthermore, is increasing significantly the District's percolation program.

Water quality monitoring has, furthermore, become a District priority. This effort, which includes systematic sampling of surface and underground waters, helps to ensure the integrity of local resources.

REFERENCES

Koretsky, King and Associates. 1976 Evaluation of Water Conservation Alternatives for South Santa Clara Valley Water Conservation District. (Santa Clara California: Anderson Nichols & Company).

State of California. 1977 Water Code. (Bancroft-Whitney Company, San Francisco, California).

United States Geological Survey. 1976 Mathematical Model of the West Bolsa Basin, San Benito County, California Prepared by Robert E. Faye. (Menlo Park, California: Water Resources Division).